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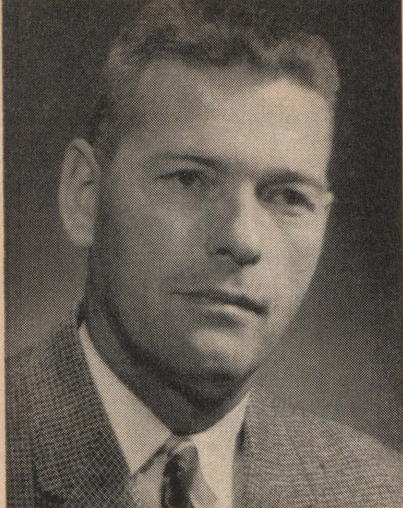
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INSIDE

THE EDITOR'S COLUMN

If You Want a Job Done Right . . .

THE QUEBEC FARMERS' Association is to be commended for its bold plunge, on a "pay-as-you-go" basis, into the field of agricultural extension. This break with tradition that agricultural extension is the responsibility of the government and paid for out of public funds may prove to be one of the milestones in the history of Canadian Agriculture.

Earlier this year, the Association, hard-pressed for funds to organize Quebec's first Corn Day, announced a substantial attendance charge. The positive response surprised even the most optimistic; one hundred and fifty cheerfully paid the registration fee to take part in the all-day discussion.

This initial success was repeated later in the year at the Corn Field Day at Ormstown. Then, at the Association's annual meeting in October, the members by doubling their own fees gave overwhelming support for an expanded program which included the engaging of a full-time secretary-manager. And in November, with the generous cooperation of Radio Station CKTS, Sherbrooke, the Association initiated a series of half-hour weekly broadcasts of farm and rural information, a first for any farm organization in Canada. Plans for the immediate future, we understand, include more of these specialized self-supporting days, a new mail service of agricultural information to members, and a major pasture-improvement program.

As with most innovations, the decision by the Quebec Farmers' Association to enter the area of agricultural education has arisen out of an urgent need. Quebec Agriculture has found itself slipping further and further behind in the race to keep up with the rapid technological advances within the industry and has found it even more difficult to meet the price competition of imported produce. The Quebec Department of Agriculture, well aware of the situation, has announced long-term plans to meet the challenge. It is struggling to free itself from a system inherited from the past which perhaps time alone can correct; its efforts are limited by the acute shortage of young graduates to fill vacant positions. The two universities and the research stations in the province can hope to do little more than make public the findings of their own research. And every day, the gap between research and practice widens.

The Quebec Farmers' Association therefore had little choice in its decision if its members were to survive the agricultural revolution. The new program has received the endorsement of the Quebec Department of Agriculture with a continuing grant. It is note-worthy, too, that the Union Catholique des Cultivateurs is also initiating a production information program this winter. Macdonald College, through its Extension Service, offers whole-hearted support of these programs.

As for the future, only time will tell how far the Quebec Farmers' Association can go in the field of agricultural extension. There is no precedent. Certainly, as the need develops for more specific information by an ever-smaller clientele, as farming evolves from a subsistence occupation to agribusiness, it is obvious that those who can profitably use them are willing to pay directly for production information, and for technical assistance and to organize cooperative on-the-farm trials. And the more direct the line of communication between source and user, the more efficient the process will be.

Perhaps the day is not too far distant when farm organizations will not only run their own Extension Service, but also commission the agricultural research which they best see is needed.

Walker Riley

Changing Concepts in Livestock Nutrition

by L. E. Lloyd *

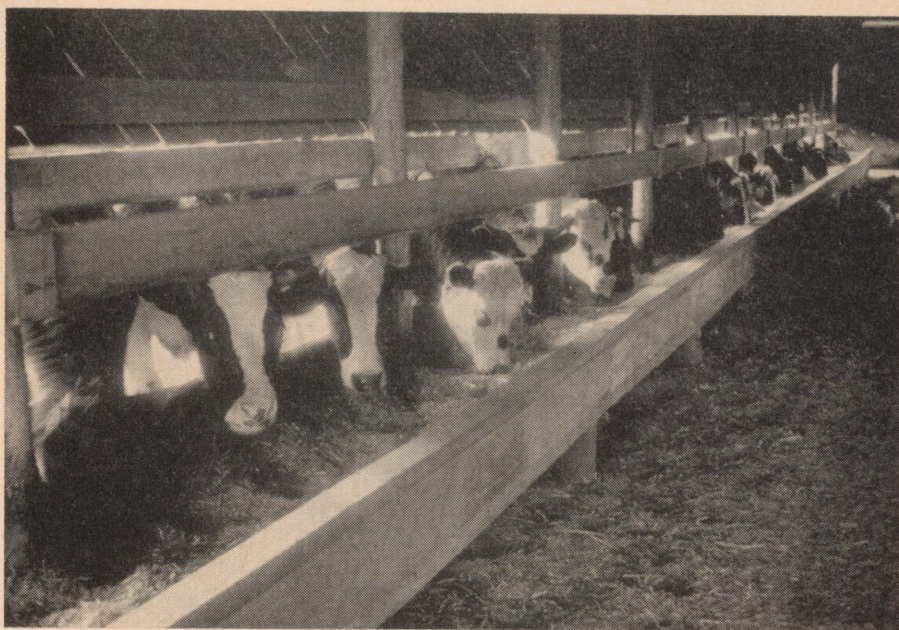
TWO INTERRELATED feeding practices have attracted considerable attention in the dairy cattle field during recent years — high concentrate rations and pelleted rations.

While the results with high concentrate rations have not been consistent, at least in respect to increased milk production, they have illustrated that, "genetically good" cows will respond to a greater energy intake than is normally made available to them, and that dairy cows will consume, without problems, much higher levels of grain than were formerly thought possible.

Pelleting of both the roughage and concentrate portion of the dairy ration has been studied. The grinding and pelleting of roughages has been shown to result in a greater intake of available energy or individual nutrients, culminating in a higher production of milk by cows subsisting on all-roughage rations. However, the latter was found to be accompanied by a depression in milk fat level, a depression which is accentuated when high levels of concentrates are fed along with the roughage.

More recent studies have shown that, while pelleted roughages reduce the fat content of milk, the solids-not-fat and the protein levels are both increased. Similarly, there has been a tendency for these two fractions to increase with high levels of concentrate in the ration.

In recognition of the superior nutritional value of milk protein over milk fat, the feeding of low-roughage high-



The conversion of plant material to milk and meat is at the best an expensive process. Here Dr. L. E. Lloyd gives examples of some of the changes taking place in the search for greater efficiency.

concentrate rations holds promise for the future. In addition, the grinding of roughages makes possible their combination with grains, and the feeding of a complete ration in pelleted form fits into everyone's ambition for greater automation and efficiency in the feeding of dairy cattle. However, it has now become a recognized fact that, at least in the case of the ruminant, individual feeds do not necessarily substitute for one another in proportion to their energy values in meeting animal requirements.

There, we must be aware of possible associative effects between individual feeds and be prepared to seek them out. Such effects may be between concentrates, between roughages or between concentrates and roughages, and, in addition, they may be influenced by the physical form in which the ration ingredients are fed. It appears that we have great possibilities for changing the composition of milk by ration manipulation.

The question of roughage to concentrate ratio and physical form of ration applies to beef cattle as well, but in a different production area. High concentrate rations tend to increase the proportion of propionic acid and decrease the proportion of acetic acid in

the rumen. In general, the grinding and pelleting of feeds as well as certain heat treatments, will have the same effect. These are real benefits when one considers that approximately 41% of the metabolizable energy in acetic acid is lost as heat increment while only about 13% of that in propionic acid is lost by this means.

Relative to the economically important monogastric species, the conversion of feed to flesh is extremely poor in beef cattle. There is a great challenge to improve this conversion efficiency in the future, and we already have good clues as to methods of approach.

Until relatively recently, the traditional concept in formulating rations for beef cattle has been to provide adequate levels of energy, protein, calcium, phosphorus and either vitamin A or carotene. Since 1960, evidence has accumulated to indicate that the NRC recommended levels of 240 I.U. of vitamin A (or 0.6 mg. of carotene) per pound of ration is insufficient under current methods of production. Obviously the true vitamin A requirements of beef cattle have yet to be established when we find various "au-



* Second in a series of articles condensed from an address by Dr. L. E. Lloyd, chairman, department of animal science to the Canadian Society of Animal Production.

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Corn in Quebec — a visitor's view*

In a colourful talk at the Ormstown Corn Day in November, Lyle Giffin, corn grower from Western Ontario left little doubt of his enthusiasm for corn. Here, selected from his two-hour address, are some of his ideas . . .

. . . On Corn in Quebec

I was absolutely amazed at the potential you have here. There is no reason at all you people can't grow a 100 bushels of corn to the acre. But you must have a pilot plan, then you have got it made. First, you are going to tile the land, then you are going to use fertilizers, and third you are going to have a variety you can work on.

. . . On Tradition

One thing a corn grower can't do and that is like tradition. If you grow oats because your father grew oats, and you grow oats because your grandfather grew oats, — then don't grow corn. Oats and wheat remain the same as far as technology of harvesting and planting are concerned. If wheat yielded 35 bushels for you 15 years ago, it still yields 35 bushels. But if you are getting 100 corn today, in ten years you are going to get 150. The thing you people have to do is this — don't start back in the horse and buggy days. If you don't get out and look for the technological advances, you are going to be sitting back and looking over the fence at your neighbour and you are going to be driving a Model T and he is going to have a Cadillac.

. . . On Meetings

My father and two brothers and I attend every agricultural meeting going. This is done mostly during January, February and March. We sit there in the crowd and we are bored to death. Most of it we have heard all before.

But we could pick up one little fact which we could use and make money on it.

. . . On Choosing a Hybrid

Don't plant all one variety. Plan your harvest before you plant. We don't start with the 115 day corn, we start with the 90 day corn. We plant perhaps a third of our early corn first. Then we switch to the latest one we are going to use. Then we revert back to 110 day corn or whatever it happens to be. When we finish, we are back to 90 day corn again. That way, when we harvest, the early corn will give us something to start on. Then we continue right on through.

. . . On Fertilizers

You have to have an outlook on corn that is going to make a fertilizer company rich. We have our soil tested in the fall and we rely absolutely 100% on our soil testing. We test for minor elements, too, mainly because we have got our yields up to the point where we are going to have to start replacing the minor nutrients. Fortunately, on our farm, none have shown up yet.

I might mention that nitrogen gives you a green, healthy plant; phosphorous goes to the roots and the ears; and potash makes a good strong stalk, so use lots of potash. Even though our soils tested optimum last year, and we didn't need any, we ploughed down 300 lbs. 60% potash. You have got to remember — if you got a 100 bushel corn, that crop used 150 lbs. actual nitrogen, 60 lbs. phosphorous and 120 lbs. potash. You must have a balanced fertilizer. If you get too much of one and not enough of the other, you are wasting your time and money.

. . . On Starter Fertilizer

You must have a plant starter. You will grow corn but you won't hit optimum yields. Whatever you do, whether your planters are brand new or an older type, don't use a high analysis type with potash. We have learned that potash in a starter is a very dangerous thing. But we are firm believers that a little potash is good and will make your nitrogen and phosphorous work as a team. The reason for putting fertilizer right on the seed in very small amounts is this: we are planting early on cold, wet ground, not because it isn't tilled but because we are out there as soon as we can get there. When soil temperatures are below 60 degrees, it will give the plant some nutrients to live on immediately and you get a quick, fast start. Now I am not advising you to go ahead and do this. It's a very touchy thing, but it's one of the advanced stages you will finally come to.

. . . On Planters

If you don't have another new machine on the farm, don't buy a used planter. If you are wrong at planting time, you are wrong all year. Your crop is spoiled. Out of a hundred drops, we want 116 kernels.

. . . On Minimum Tillage

If you don't know how to plough, if you are not a neat plougher, then forget it. Also, you have to have a furrow that crumbles and loam land. The clay boys are doing it. They are using a disc harrow and hook the planter on behind it, and away they go. Most are using dual wheels to prevent compaction. That's the reason for minimum tillage.

* Our thanks to the Quebec Farmers Association for permission to use this material, and to the House of Seagrams for photograph.

"Corn is a wonderful plant — it will do almost anything for you. If you get a shoot of corn above the ground, you can hardly kill it."

Lyle Griffin speaking to the Ormstown Corn Day.



... On Pests and Diseases

If you are growing corn and more corn, you are going to run into insecticide problems. We have a problem. Root worms. Next year, we have to go to maximum insecticide applications. After that? We don't know.

... On Dwarf Mosaic Disease

We have experienced this disease and it's scaring us to death. But this year, we haven't seen a sign of it. Last year, we were infested something terrible with aphids. And don't let any fly-by-night salesman sell you a chemical to kill aphids. There isn't any. A good rainstorm is better.

Then you have the cereal leaf beetle...

... On Weed Control

Our weed spray program last year consisted of this — one pound 80W atrazine, one gallon emulsifiable oil and two ounces 2,4-D to the acre. The oil magnifies the 2,4-D seven times. So be sure you know what you are doing. We find 2,4-D is a growth killer. It grows the weeds to death. That's how it kills them. We use it so

the grasses take up the atrazine faster. Otherwise it's not needed.

The reason for the oil is to make the atrazine stick to the leaf. We use a pressure of 80 lbs. to the square inch. That's enough. You must have agitation. Figure out the number of pounds, put it in a five-gallon pail, mix with water, dump it into the tank, and have good agitation. Don't shut it off; don't leave it overnight. I am telling you these things because we found all this out the hard way.

... On Cultivation

We cultivate our corn when it is 12 inches high for only one reason — you stimulate brace root growth by killing the corn a little. If you have a hot moist season, your brace roots go down anyway. After we get this done, we go on a bit of a holiday.

... On Harvesting

We do half ourselves and hire machines for the other half. We use a 4-row combine.

... On Storing

For Pete's Sake, look after it. It cost you a lot of money and it's going

to cost you another fortune to set up a drying situation. But you don't have to do all that. There's such things as corn cribs, and nine times out of ten, they will serve better than any other type of operation. You should have 20,000 bushels corn before you go into a picker-sheller operation.

For Pete's Sake, don't get corn cribs over 4½ feet wide for your high 35% moisture corn, and try not to put it in over 25% unless it's late in November and cold. You won't find many cribs in March under 20%. I don't think that's too serious a complaint. We cannot get 14% corn out of a crib before June 15th.

... On Driers

Our operation is not a common one in the corn growing area...

... On Aeration

You might be able to store wheat and oats, but when you get into 14% corn, you have problems. You can't put it into a tank over 80 degrees temperature and forget about it. It must be down. You must have proper aeration or it will spoil. You need a system with a fan to suck the air from the top down through and out.

Diversify your forage program with **DRUMMOND TIMOTHY**

by John Bubar*



Drummond Timothy matures one week later than Climax, a feature which spreads out the haying season.

"Forage crop breeders should then think of breeding perhaps several varieties in a given species which would bloom and ripen about a week apart like in cereals."

"Weather conditions in Eastern Canada seldom permit the early making of good dry hay under field conditions. At present, artificial drying is costly. One way of reducing the cost of artificial drying would be to develop some later maturing species of legumes and grasses. In using varieties of different maturity, the farmer would be able to delay the haying by one or two weeks, when drying conditions are better, and still get the maximum of digestible nutrients per acre in the first cutting of a forage crop."

THESE TWO quotations are from an article entitled "Problems in Forage Crops at Lennoxville" written by Dr. Ernest Mercier in 1959. They are based on his experiences as Superintendent of the Lennoxville Experimental Farm and as an animal production specialist. Drummond timothy is about

one week later than Climax so it meets both of Dr. Mercier's specifications — Drummond and Climax are a week apart and Drummond is later when haying weather is likely to be better.

Drummond resulted from a timothy breeding program carried out at Macdonald College during the period from 1933 to the early 1940's. While some seed was distributed during the 1940's and extensive testing was carried out and the results of many experiments demonstrated that Drummond can very well meet farmers' needs for a late maturing hay timothy, nevertheless, no seed producers undertook to multiply this seed. The problem of getting good varieties of forage crops multiplied has been recognized by government agencies, as well as forage researchers, and led to the organization of the Canadian Forage Seed Project in Canada and the National Forage Seed Project in the United States. These projects have been successful in making several good varieties, Climax timothy for example, available to farmers. They have also stimulated interest in commercial establishments in setting up their own seed multiplication projects, in developing their own breeding programs, and in

taking over multiplication of useful varieties that would not otherwise be available. The result is that Drummond seed is now being multiplied under contract and a fair quantity of Certified seed is available for seeding in the spring of 1966.

As Dr. Mercier pointed out, farmers need a series of good varieties of timothy and other forage crops that mature at intervals of about one week so they can get the maximum in digestible nutrients per acre. Timothy cut too soon does not give the maximum because it is down in total yield. Timothy cut too late is down in quality. The ideal cutting stage is an early bloom stage up to a full bloom stage.

Three good timothy varieties that mature in sequence at about one week intervals are Milton, Climax and Drummond. Climax seed is in good supply now, some Drummond is now available and multiplication of Milton has been initiated so it also will be available to farmers in a few years' time.

Dates when timothy varieties are ready to cut at Macdonald College

HOT-DRY SEASON

Milton	June 15
Climax	June 22
Drummond	July 1

AVERAGE SEASON

Milton	June 18
Climax	June 27
Drummond	July 6

COOL-MOIST SEASON

Milton	June 22
Climax	July 1
Drummond	July 15

Another interesting feature of these varieties, particularly of Drummond, is the way they respond to weather during late June and early July. If you have hot, dry weather that favours rapid haying, Drummond hurries along and is ready for cutting about July 1st. On

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* Dr. Bubar is Assistant Professor of Agronomy in charge of the forage breeding program at Macdonald College.

Pasteurization ... of chicken, not milk

by Florence A. Farmer*

WHAT IS the difference between an atom and a molecule? When my niece asked this question, my thoughts went back to my own school days when I was taught that an atom could not be split to provide useful energy. Now the energy of the split atom can be used for destructive purposes such as the bombing of Hiroshima or for peaceful uses such as the treatment of cancer. During the last twenty years, our thoughts have turned to the possibility of using irradiation in the food industry. So far there are no irradiated products on the market. However, the first commercial installation has just been completed in St. Hilaire, Quebec for the treatment of potatoes to prevent sprouting in storage. In a free enterprise economy such as the one we enjoy in Canada, perhaps we will soon have irradiated chicken on the market too.

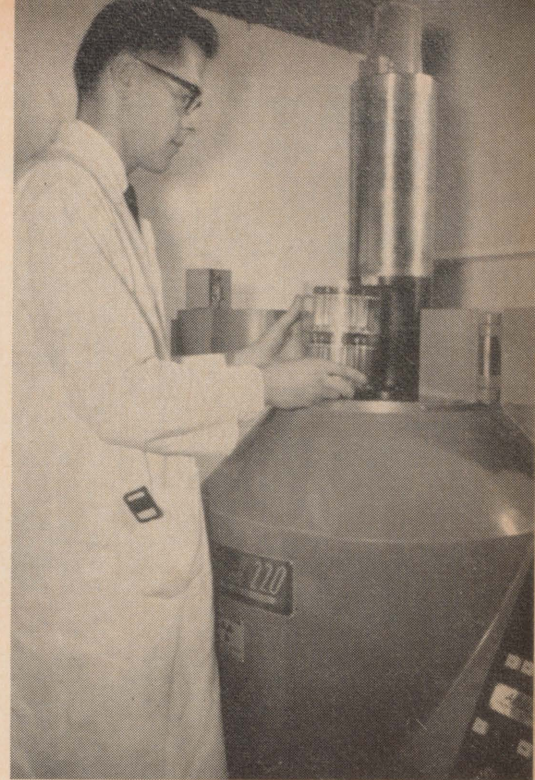
When typhoid fever broke out suddenly in Aberdeen, last year, many citizens who had never previously heard of *Salmonella* become aware of its existence overnight. There are innumerable types of *Salmonella* (bacteria inhabiting the intestinal tract of man and other animals). *Salmonella typhi* which caused the typhoid epidemic is only one of many such bacteria. Some are relatively harmless but the presence of any of them in human food is an indi-

cation that contamination by fecal material from some source has taken place.

Salmonella infestation of poultry has posed a problem for public health authorities ever since Canadians developed a liking for chicken salad and Bar-B-Que'd chicken. When chicken is thoroughly cooked and eaten immediately or after storage under proper refrigeration, little danger of food poisoning exists. However when chicken is incompletely roasted so that the stuffing is not properly heated through, or when chicken salad is prepared for large social gatherings and left in a warm place for several hours, this is when the trouble may start.

One of the possible sources of *Salmonella* in chicken is the feed sold commercially. It is logical to suggest that we irradiate the chicken feed rather than the chicken itself. Perhaps some day this will be done but immediate prospects are poor because the *Salmonella* harboured in the digestive tract of a chicken do far more harm to the humans eating the chicken than to the chicken itself. Moreover since deaths from *Salmonella* infections in Canada (1963) were only ten (compared to 3000 for lung cancer and 4000 for motor vehicle accidents), it is difficult to stir up any enthusiasm for legislation which could help prevent food poisoning. Nevertheless, if you have ever had the misfortune to suffer from food poisoning, you know what I am referring to. Food poisoning is usually mild. The symptoms include headache, nausea, vomiting, diarrhea and weakness. After two or three days — even without treatment — the patient recovers. Once the patient's appetite has returned to normal, the food poisoning is soon forgotten.

Research is now being undertaken jointly by the Department of Microbiology and the School of Household Science in this field. This work is being supported financially by Atomic Energy of Canada Limited and is being carried out in cooperation with the United States Atomic Energy Commission and the U.S. Army Natick Laboratories. An irradiator has been installed at the College for use in the research. The Gammacell 220 was supplied by Atomic Energy of Canada Limited. Gamma rays are emitted from a Cobalt 60 source which is well shielded at all times, by a lead covering which ab-



The container of food for processing, here held by Dr. E. S. Idziak, is lowered mechanically into the lead-shielded Gammacell 220 Irradiator.

sorbs the rays making it safe for the operator to use. It is large enough to irradiate a single chicken at a time.

A student who graduated from MacDonald College in 1964 has returned to the College to take her Master's degree in Nutrition. Her research will deal with the problem of evaluating acceptability of irradiated chicken. It is always difficult to have humans involved in research. Animals can be diets they dislike and made to eat them whereas humans, especially well-fed Canadians, will eat only what appeals to them. They will eat *Salmonella*-free chicken but only if it tastes as good as the non-irradiated chicken they are accustomed to. Plans are to set up a taste panel to be selected from among the students. In the meantime some of the preliminary problems are being solved by using members of the staff as a panel.

Last week we tasted our first irradiated chicken. The raw chicken was wrapped in a plastic bag, inserted into a solid plastic container and placed in the sample chamber of the Gammacell 220. When the machine was turned on, the drawer containing the sample chamber was lowered until the sample was located within the cobalt source. An automatic timing device measured the length of time the chicken was to be exposed to the rays. In the present trial the chicken was irradiated for 36 minutes to develop 0.7 megarads of irradiation energy. At the completion of the exposure time the chicken was automatically raised to the surface and

(continued on page 21)



* Dr. Florence A. Farmer, Assistant Professor, School of Household Science

Compiled by T. Pickup of the Information and Research Service,
Quebec Department of Agriculture and Colonization.

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Maple products 1965

PHOTOGRAPHS BY
OMER BEAUDOIN



A dragline excavator from the Department of Agriculture and Colonization digging a drainage channel through the farm of Mr. N. Letourneau at Lamorandiere, Abitibi-East. A considerable portion of ARDA funds has been devoted to drainage projects in Quebec.

ARDA in Quebec

A summary of projects now being carried out in Quebec as a result of the initial agreement of 1962-1965

Under the terms of the first federal-provincial ARDA agreement signed by Quebec in 1962, a sum of \$21 million was made available for agricultural rehabilitation and rural development in the Province. This sum, half of which

was provided by Ottawa and half by Quebec, was to be spent in 21 months (by March 31st 1965, the date of termination of this agreement).

In order to take full advantage of
(continued on page 12)

Clearing land to make a community pasture at Hébecourt, Abitibi-West. Community pastures are among the projects for which ARDA funds are being used in Quebec.



the credits placed at her disposal, Quebec submitted to Ottawa for approval a number of projects costing about \$10½ million which were in conformity with the terms of the agreement but had in fact already been carried out under the regular budgets of the government departments concerned. In this way, Quebec recovered from federal ARDA funds about half the cost of projects already completed.

Four million of the \$21 million were allotted for research and economic profitability studies, four million to different rural development works, and about \$13 million to projects connected with soils, water, and efficient utilization of land.

Among the research projects so financed between 1963 and 1965 were the following: a forestry survey of the counties of l'Islet, Kamouraska, and Rivière-du-Loup (\$195,000), blueberry study of the Lake St. John and Abitibi regions (\$140,000), studies for the development of the valley of the Rouge river (\$197,600) and the Brome area (\$96,000), and the establishment of the Eastern Quebec Planning Bureau which, with the help of specialists has been entrusted with the task of preparing a master plan by 1966 for the development of the nine counties of the "pilot region", namely: Rivière-du-Loup, Témiscouata, Rimouski, Matane, Matapédia, Gaspé-North, Gaspé-South, Bonaventure and the Magdalen Islands.

Both Quebec and Ottawa are confident that the Eastern Quebec Planning Bureau will propose a realistic development plan whose realization will have the effect of alleviating poverty in the Lower St-Lawrence, Gaspé, Magdalen Islands area. This is the first time that a general plan for the development of all the available resources (agriculture, fisheries, forests, tourist, etc.) has been drawn up. This feature and the very active participation of the local population in the planning makes the experiment the most original one that ARDA has produced so far. Its results will most likely dictate the type of government action in other



areas where planning has to be undertaken. By March 31st 1965, the Eastern Quebec Planning Bureau had received nearly \$2½ million in grants from ARDA funds to carry out its work, the cost of which is estimated at about \$4 million.

In addition, ARDA has given rise to a score of rural development projects whose cost is reckoned at about \$4 million. Amongst these is a farm improvement project in Northwestern Quebec (\$700,000) and in the above-mentioned pilot region (\$1,260,000). Also in the field of rural development, ARDA has allotted more than \$400,000 to nine re-forestation projects in connection with farm woodlots in the Lower St-Lawrence, Gaspé region, and nearly \$300,000 to the improvement and enlargement of ten provincial forestry nurseries. There are also a number of programmes to help fishermen, specially in connection with modernization and installation of equipment for processing and preserving fish.

The projects concerning soils, water, and efficient land utilization, on which the directors of ARDA decided to spend \$13 million, include a variety of undertakings. In the field of soil and water conservation there are about a hundred drainage projects

costing \$4.7 million, a plan for correcting the course of the Chaudière river at an estimated cost of \$2.4 million, and the straightening of the bed and strengthening of the banks of a number of watercourses.

Projects designed to find alternative uses for land include plans (now partly carried out) for developing some fifteen blueberry grounds in northwestern Quebec and Saguenay-Lake St. John at a cost of \$1.3 million, the present transformation of Mont Ste-Anne near Quebec city into a big municipal park at an approximate cost of \$1 million (\$200,000 of it provided by ARDA), and the purchase for \$1,974,000 of all the forest holdings of the Hammermill Paper Company in Matane and Gaspé North, chiefly with the object of bolstering the local economy and initiating a soil-and-water conservation programme.

Other projects now being carried out under ARDA, at an expected cost of \$1 million, are a programme of aid for the purchase and transport of beef cattle for northwestern Québec, establishment of a community pasture at Ste-Anne-de-Roquemaure, and a forestry survey and inventory of Montmagny county.

(From an article by J.B. Roy in "Agriculture", Vol. XXII, No. 3, September 1965).

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

FOLIAGE DISEASES OF VEGETABLES IN QUEBEC AND THEIR RELATION TO RAINFALL

by Thomas Simard, René Crête and Jacques Simard

Observations made over a six-year period in the muck soil district south of Montreal indicates that early establishment of foliage diseases may be expected and fungicide applications required in July when the June rainfall is close to or above the 27-year average. Rainfall in June notably lower than the 27-year average indicates a late development of diseases and, therefore, no fungicide sprays should be required in July.

Since 1959, annual surveys of the plant diseases occurring on the principal vegetable crops grown in muck soils south of Montreal have been carried out. The object of these surveys was to follow disease development in the area and to try to relate this development to annual climatic conditions, especially rainfall. The general method used is described in an earlier report (3).

The annual rainfall for 1959 to 1964 and the 27-year average rainfall from June to September for the period 1938 to 1964, recorded at Ste. Clotilde, Que., were obtained from M. C. Peron, of the Research Station at St. Jean, Que. and are presented in Table 1. These figures are considered to be representative of the general situation in the muck soil district.

Results and discussion

In general, the results for 1963 were similar to those presented for 1962 (4). In both years, foliage diseases were observed about one month later than in 1961 and did not develop extensively. In 1964, the situation was even less critical; the diseases developed about 45 days later than in 1961 and, in general, traces only were recorded early in September.

This seems to support the hypothesis of a correlation between June rainfall and inoculum build-up leading to the establishment of initial disease foci, put forward earlier (4).

Table 1 shows that the June rainfall in the years 1959-1961 was close to the 27-year average at Ste. Clotilde. 1961, with heavy rainfall in June, July and August, was characterized by a

general spread and high intensity of foliar diseases on potato, onion and carrot. In 1961, early epidemics of potato late blight (*P. infestans*) on both early and late varieties, onion leaf blight (*B. squamosa*) and mildew (*P. destructor*) and carrot leaf blights (*A. dauci* and *C. carotae*) were observed (3). In 1959 and 1960, the June rainfall was high but latter parts of both seasons were dry, except in August 1959. Consequently, the foliar diseases mentioned above although generally observed, were at a low intensity (1, 2).

The years 1962-1964 were characterized by June rainfall notably lower than the 27-year average. During those three years, foliage diseases developed late; in mid-August of 1962 and 1963, and early in September of 1964. During this period, disease was most serious in 1962, when July and August rainfalls were higher than the 27-year average (4). During the six years under observation, disease development and intensity were the least serious in 1964, when rainfalls for June, July and August were below the 27-year average.

In summary, these results indicate that an early establishment of foliage disease may be expected and fungicide applications required in July, when the June rainfall is close to or above 3.50 inches, the 27-year average at Ste. Clotilde. Further spread and development of the diseases will depend on the July and August rainfalls.

A June rainfall much lower than the 27-year average indicates a late development of diseases and, therefore, fungicide sprays should not be

required in July. Under these conditions, if fungicide sprays are applied in August in years when rainfall is high during July and/or August, no serious economic losses should be expected from foliage diseases.

Table 1. Rainfall in inches at Ste. Clotilde (Chateauguay).

Year	June	July	August	Sept.
1959	3.46	1.44	5.18	1.43
1960	3.19	1.54	1.56	4.31
1961	3.32	5.12	3.77	0.52
1962	1.93	4.76	4.59	2.76
1963	2.83	1.62	6.04	3.13
1964	1.72	2.91	3.03	1.19
27-year average	3.50	3.50	3.39	3.15

Literature cited

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 2. Simard, Jacques, René Crête and Thomas Simard. 1960. Vegetable disease on muck soils in the Montreal area in 1960. Can. Plant Dis. Survey 40 : 72-74.
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- (From : Vol. 45, No. 3, Can. Plant Dis. Surv. Sept., 1965)

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

Monogerm Sugar Beet

One Plant Per Seed Cuts Field Work

A hybrid genetic monogerm variety of sugar beet, called Monoplex, was launched by the breeders, Bush Johnsons Ltd., at a meeting in London on Thursday. This is true single germ seed, giving rise to one plant only. It is a big step forward from the so-called mechanical monogerm seed — produced by breaking a multigerm cluster.

Monoplex seed has already gone out to farms, through the British Sugar Corporation, on a limited scale. About 4,000 acres are cropped with the variety at the moment.

This type of variety is not static but one which the breeders believe they are constantly improving upon through parents used in the production of the hybrid. At the present juncture the breeders are confident that it is comparable with good multigerm varieties in sugar yield and quite up to acceptable standards with regard to bolting.

Unlike an ordinary sugar beet plant, which produces its flowers in clusters which give rise to "seed" containing several embryos, a monogerm plant has single flowers which produce seed containing only one embryo. The single embryo seed produces only one plant, thus reducing field work.

Another advantage of the monogerm seed is that the single embryo is much larger and gives rise to vigorous germination and particularly good field establishment.

Monogerm seed is slightly flattened in shape which, it has been suggested, might give difficulty when drilling. But Messrs. Bush Johnsons claim there need be no such difficulty if the seed is expertly processed.

Monoplex will be graded for uniform thickness and will be available in two

sizes (7 to 8½ sixty-fourths and 8½ to 10 sixty-fourths).

Play Safe

Germination is high but, because of usual field hazards and the fact that drilling to a stand is a particularly expert job, the company advise drilling at 2½ to 3 in spacing.

The story of the development of monogerm seed goes back 20 years to the time when a Russian called Savitsky examined hundreds of acres of beet, plant by plant, and found about two dozen natural monogermers.

Soon afterwards, he left Russia and restarted work in Oregon, U.S.A., where, in 1948, he found two naturally occurring monogermers. These two are the origin of all plants in breeders' hands in western countries to-day.


These original monogermers were extremely poor in field characters. Over the years they have had to be back-crossed repeatedly to good multigerm plants and this was by no means a straightforward job.

Dr. Sidney Ellerton, head of the Bush Johnsons breeding work, has been working on this improvement of monogermers at Woodham Mortimer, near Maldon, Essex, for 15 years.

Dr. Ellerton told the meeting on Thursday that in a normal sugar beet seed field, large numbers of plants intercrossed promiscuously, resulting in some good and some bad types.

Therefore, he used a special type of plant, known as a male sterile, which did not produce pollen and so could not pollinate itself. By using a male-sterile parent and crossing it with a fertile pollinator (which was discarded after it had provided the pollen) he produced a specific hybrid.

Obviously the breeder must maintain



Mr. Gustave Michon of La Presentation, County of St-Hyacinthe, in his field of sugar beets, of which he grows about 300 tons a year.

his stocks of the parents of his hybrid and, in the case of the male sterile parent, this raised another problem. Most pollinators, when crossed with the male sterile plants, upset the male sterility factor, so that the progeny were male fertile. But there were certain rare plants called "O" types or non-restorers, which did not do this and these had to be used.

One very commercial point about this is that it is impossible for such a hybrid variety to be pirated, since the "O" types never go out of the breeders' hands.

(Farmer and Stockbreeder, 7 September, 1965)

PAPER CELLS FOR TRANSPLANTING SEEDLINGS

A technique for the production of paper cups for grass and legume seedlings has been used for 20 years with considerable satisfaction at the CDA Research Station, Saskatoon, Sask. Dr.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

R. P. Knowles of the station explains the method;

Regular greenhouse flats are filled with cells made from newspaper. Cells are ¾ inches in diameter and 2¾ inches deep with a total of 260 cells per flat. Two galvanized iron sheets, slotted at ¾-inch intervals, form a framework to assist in placing cells in the flat.

Two additional metal strips are advanced step by step across the flats, with a row of cells being inserted progressively as these metal strips are moved. An experienced man can pre-

pare a flat in 1 hour. When a flat is filled all metal strips are withdrawn.

Strips of paper may be inserted crosswise in flats after they have been filled with cells. This allows a handy separation of cells within flats. Strains for replicated tests frequently are randomized in flats for later transplanting with a machine transplanter in the field. Soil is not placed in flats until they are ready to use.

Heavy rates of fertilization are required.

(From "Research for Farmers", Fall 1965)

Lamb and Wool Support Programs



A flock of sheep with their lambs on the farm of Mr. Andre Cotnoir at St-Bruno de Guigues.

Support prices for lamb and wool were announced today by the Agricultural Stabilization Board.

The price for lamb is \$18.80 per hundred weight on a national live-weight basis; for wool, 60 cents per pound. The support levels for the 1965-66 stabilization year ending March 31 are unchanged from the previous period.

The support program for lamb applies to Choice and Good grades in the 36-56 pound carcass weight range. Payment of the quality premium for these lambs is being continued.

In the 1964-65 year, the national average price to lamb producers amounted to \$21.28 per hundred-weight and a deficiency payment was not made.

Wool producers, however, received a deficiency payment of 12.3 cents a pound, the amount by which their average return fell short of the support, or floor, price of 60 cents. Payments to some 27,000 producers amounted to more than \$550,000.

(From "This Month with the Canada Department of Agriculture", No. 3)

Aid for agricultural establishment

SHEEP INDUSTRY ASSISTANCE

Ottawa, September 10, 1965 — Federal assistance in the cost of transporting sheep for breeding purposes is being continued for another three years.

A five-year federal-provincial program was introduced in 1960 to provide assistance in the movement of commercial ewes and ewe lambs to sheep-deficient areas for breeding purposes. The program applied to the transport of sheep within western Canada, from Western to eastern Canada, and from Quebec to the Atlantic provinces and Ontario.

The program is being continued unchanged. The federal government will continue to contribute up to 50 per cent of the transportation costs, with its share matching that of a participating province.

Shipments qualifying for assistance must meet four requirements: the sheep must be purchased by actual producers for breeding purposes; selection of animals must be approved by the provincial department of Agriculture; there must be at least 100 ewes or ewe lambs in any one shipment, and the shipping distance must not be less than 200 miles by the shortest route.

By March 31 of this year, 26,787 ewes and ewe lambs had been moved under the program designed to stimulate the Canadian sheep industry. The extended program will run to March 31, 1968.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

In order to promote sound agricultural enterprise, the Government of Quebec offers a grant of \$1,000 to persons who want to establish themselves permanently on a farm to make their living from it.

This subsidy, which is paid in five annual instalments of \$200, must be used exclusively for agricultural purposes.

Conditions

1. To be eligible for the grant, an applicant must:
 - a) be not less than 21 and not more than 40 years of age;
 - b) have enough agricultural experience or training to be able to support himself by farming;
 - c) be the owner of his farm;
 - d) make farming his principal occupation.
2. The applicant's farm must:
 - a) be provided with buildings suitable for the conduct of the enterprise;
 - b) be sufficiently remunerative, considering the acreage under cultivation, nature of soil and available markets.
3. Application for the grant must be made not more than two years after the date of purchase of the land. This period may, however, be extended in the case of a young farmer who has not operated his farm on his own account nor resided on it prior to making application.
4. This subsidy cannot be granted more than once to the same person.
5. No application will be considered if the deed of purchase of the farm contains any clause which implies to the vendor the right or option of redemption or repurchase, or a giving-in-payment clause, or if the

property carries a hypothec (or mortgage) payable on demand.

6. Any person who has been granted a subsidy under this policy shall forfeit his right to claim or receive any of the instalments which have not already been paid to him, as soon as he ceases to own or operate the farm or as soon as its operation ceases to be his principal occupation.

7. The Department of Agriculture and Colonization may demand the repayment of any subsidy which has been obtained under false pretences.

ERNEST MERCIER

Deputy Minister of Agriculture and Colonization.

QUEBEC, September 8th, 1965.

MAPLE PRODUCTS 1965

The Agriculture Section of the Québec Bureau of Statistics issues an estimate of the output of maple products in the Province of Québec, listing the categories of maple syrup sold in barrels in 1965 and the farm value of the 1964 production. It also includes statistics on production and value for the whole of Canada and the provinces engaged in maple production, Canada's exports, etc.

The estimates for the Province of Québec are based on approximately 4,500 reports completed by producers representing more than 25 per cent of Québec's maple groves. Processors who get their supplies in Québec report the quantity and value of their purchases.

Maple Groves

According to the Federal Census, farmers of the Province of Québec were operating 17,282 maple groves in

(continued on page 23)



THE BETTER IMPULSE . . .

News and Views of the Women's Institute of Quebec

A CHRISTMAS MESSAGE

CHRISTMAS renews our faith in all that is good in the world —
CHRISTMAS brings the selfless spirit of doing for others —

CHRISTMAS is for Laughter, Friendship and the Spreading of Cheer —
And it is the innocent wonder of children.

CHRISTMAS brings the joy of families united;

It is the tender knowledge of being loved by someone, and that you have someone to love.

CHRISTMAS is believing in prayer and the Power that answers it,

And the right to sing of your belief in the way of your choice.

CHRISTMAS is all the things free men fight and work for —

May we share together a blessed happy Christmas, remembering that you give but little when you give of your possessions;

It is when you give of yourself that you truly give.

Elsie C. Ossington

President,

Quebec Women's Institutes



Mrs. Aroti Dutt, India, newly-elected president, Associated Country Women of the World.

ACWW TRIENNIAL CONFERENCE

The next Triennial Conference of the Associated Country Women of the

World will be held in the United States, 1968. This has just been announced by the ACWW Office, London, England, in a release on the ACWW Council Meeting held after the recent Conference in Dublin.

Discussion was held at this meeting on the Conference agreement to support Unesco Gift Coupon Scheme #390. Two specific proposals were considered under this plan: a nutrition and child welfare training centre in Colombia, South America, submitted by the Federated Women's Institutes of Canada; and a literacy campaign in emerging countries, proposed by the National Federation of Women's Institutes, England.

The capital fund of the Lady Aberdeen Scholarship Memorial Fund was closed at £25,000, the interest to continue to be used to provide scholarships for selected women from developing countries to carry on their studies in nutrition and child welfare. The expendable portion of the Fund will be used for village training projects. Two are successfully operating at the present time in India and Rhodesia. Members of FWIC, with other ACWW Constituent Societies, are continuing their support of this portion of the Fund.

Mrs. Aroti Dutt, India, was unanimously elected ACWW President. Mrs. Dutt has served as the Area Vice-President for Asia during the past term and has had long experience in the work in her own country and abroad. She has represented ACWW at various meetings of UNESCO and UNICEF and taken part in UNESCO Seminars. In 1964 she attended the UNESCO/-NGO Conference in Paris and assisted with the ACWW Asian Conference and Seminar, Kuching, Sarawak. In her message for the new Triennium, Mrs. Dutt states: "Let us work not to be just a minor detail in the beautiful tapestry of social welfare in many lands, but to be a vital part for the progress of women both at national and international levels".

W.I. COUNTY PROJECTS

GASPE COUNTY W.I.'s have just completed their Annual Fair Projects. All W.I. branches in the County took part in the Annual Fair which was held in the Recreation Centre in Douglastown. Numerous exhibits were on display.

1st, 2nd, 3rd, 4th and 5th prizes were awarded to the lucky exhibitors by the judges who were Miss Tremblay, Department Technician, and Mrs. W. Eden, County President. A delicious turkey supper was served by the hostesses, the Douglastown Branch, following the Fair.

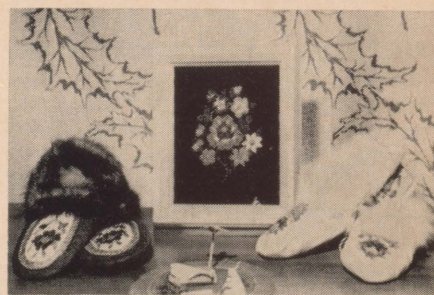
Two weeks later, the Annual Children's Fair was held at the same location. A very interesting display of sewing, handicrafts, carpentry, vegetables and other items were judged, and refreshments were served.

At the County Semi-Annual meeting which followed these successful events, it was agreed they would be continued, and committees were appointed to arrange programs for Fairs '66.

ROUYN-NORANDA W.I.'s hold a County Bake Sale.

All branches in the County donate items to the sale, the proceeds of which go to the County Treasury. Response to the sale was excellent — partly because it was given wide publicity by the County Convener, Mrs. C. Vatcher, through the local and Kirkland Lake (Ont.) press and radio, and through Timmins (Ont.) T.V.

Note: Many local news outlets will carry free announcements of W.I. events, if we take the trouble to give them the necessary information.



Articles from the Northwest Territories in the Canadian exhibit of handicrafts at the ACWW Conference in Dublin.

PENNIES FOR FRIENDSHIP

All members have been making special efforts to contribute more Pennies for Friendship, the source of income for ACWW. Here is SPOONER POND'S idea: as each member's birthday month arrives, she puts coins corresponding to her age into the Pennies for Friendships container. (They didn't say if the member had to tell how many pennies she put in!) They sing Hymn of All Nations at each meeting.

The Month With The W. I.

ABITIBI EAST : MALARTIC : mitts are being knit for needy children; display of aprons and a mosaic design frame was held; coloured slides shown of a trip West and down to Mexico; plans started for children's Christmas party. **MATAGAMI** presented a cheque for \$50.00 at the opening of the new school, to be used for bi-lingual library books; plans underway for a dentist and an optometrist to make regular weekly visits to the community; committee formed to investigate what has been done and what can be done re local Indian Affairs; Mrs. Ducker had a lovely display of handicrafts and gave a short talk on Arts and Crafts. **VAL D'OR** held program meeting when activities for the year were discussed.

ARGENTEUIL : ARUNDEL had as their guest speaker, Dr. Rondeau of Huberdeau who spoke on Health and Welfare, and on Teenage Problems; donations made for Crippled Children's Fund, and Mysore Plan Fund. **BROWNSBURG's** meeting took the form of a social evening in which numerous games were played, the favourite being the new TV Game — "It's Your Move"; roll call answered by a favourite joke; special project — making and donating of home-made cookies, to Veteran's Hospital. **DALESVILLE-LOUISA** answered roll call by each member giving a current event; heard report of September Board meeting; entertained **PIONEER** branch, and enjoyed games and contests, with decorations and refreshments carried out to represent "Thanksgiving". **FRONTIER** entertained husbands at a casserole supper, followed by a sing-song, and the showing of a film "A Trip Across Canada"; roll call answered by telling a joke about education. **JERUSALEM-BETHANY** had guest speakers Mrs. Charters and Mrs. Duck from CAC; answered roll call by giving a hint on reducing; catered a wedding with good success; attended a luncheon for a group of W I members from Ontario; Mrs. N. MacGeorge was recipient of a tray given for most points won in Handicrafts at Lachute Fair. **LACHUTE** were entertained at Lake Louisa by Mrs. Alex Clarke who, as Agriculture Convener, gave an interesting talk on "Trees". **LAKEFIELD** entertained Arundel, with guest speakers Mrs. Charles Hall, County President, and Mrs. C. Stephens, past County President; drawing contest held for which prizes were given; roll call answered by relating an interesting event in school days. **PIONEER** were most pleasantly entertained by Dalesville-

Louisa. **MORIN HEIGHTS** entertained Morin Heights High School teachers, and new Principal, and husbands of members, at a supper; Mrs. C. Hall, County President, and Miss E. Graham, County Secretary were guest speakers; Miss E. Watchorn won a patchwork quilt. **UPPER LACHUTE EAST END** were entertained by Mrs. Ronald Moncrieff of CIL who showed a film "Roar of the Lion", a Safari Trip to Africa; toy donated for local needy children as roll call; a member remembered on her 50th Wedding Anniversary while another celebrated her 55th Wedding Anniversary.

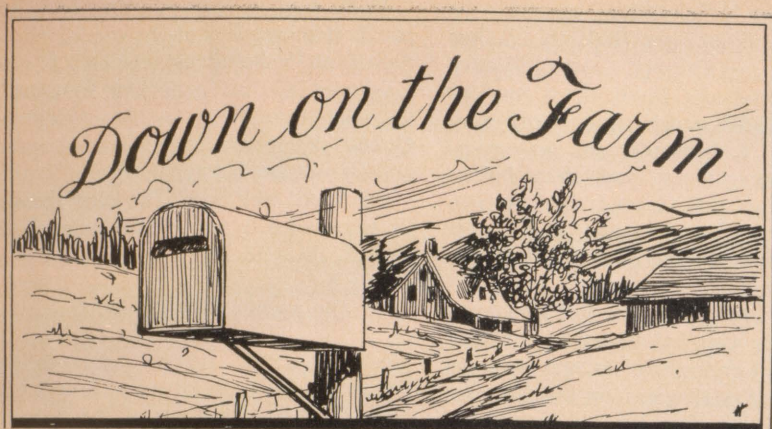
BONAVENTURUE : BLACK CAPE'S theme was education; education outline read and discussed; convener read articles entitled "Free Education in Newfoundland" and "Honesty is the Best Policy in Politics" by George Hees; current event for roll call; word-building contest on "Education" won by Mrs. Storrak; grateful letters from the branch's foster child stated that funds received enabled her to continue her education with much success. **CASCAPEDIA** presented a life membership to a deserving member; donated money to a cancer patient; served turkey dinners at local Agricultural Fair. **MARCIL** collected Canada Packers labels and bought dishes and cutlery for school cupboard; branch was pleased that Mrs. John Walker was winner of 1st prize for crocheted bedspread, and 3rd prize for knitted afghan at Handicraft Exhibit at Convention time. **PORT DANIEL** members visited the jail, courthouse and police department in New Carlisle; sent cottons to Cancer Society. **MARCIL** and **PORT DANIEL** jointly sponsored a most successful School Fair, and had a booth of home-cooking and Handicraft at the Agricultural Fair.

CHATEAUGUAY - HUNTINGDON : **AUBREY-RIVERFIELD :** Miss Penny Root, student delegate to U.N. Seminar at Macdonald College, recounted her experiences and emotions on some of the illuminating highlights; held quiz on Canadian History; Mrs. Hiram Reddick was presented with a W I Life Membership and a lapel brooch for her valuable services over the years. **DEWITTVILLE** operated a very successful "Tea Booth" at Huntingdon Fair. **HEMMINGFORD** held their Annual School Fair which was again an outstanding success; held Nearly-New sale of children's clothing; some members attended a Weaving Course, sponsored by the Cercle de Fermieres and Mrs. E. Keddy brought

samples of weaving she had done. **HOWICK** saw a demonstration of cake decorating given by Mr. Charles Grant of Huntingdon; held begonia contest; entertained Aubrey-Riverfield W I and Howick Cercle de Fermieres, also had as guest an exchange social worker from Mexico. **HUNTINGDON :** Mrs. Allison Murray gave an interesting and informative demonstration on Cheeses; refreshments consisted of various cheeses, fruit and crackers most effectively arranged on trays, — a pleasant change from the usual refreshments; held a contest naming various cheeses, (very few of which were known by the ladies!); continued with information from New Zealand W I. **ORMSTOWN** had as guest speaker, Mrs. Jessie Ryser, who spoke on parts of Germany, Holland and Southern Italy, telling history of some churches, of the Leaning Tower of Pisa, and scenes and events in Holland during enemy occupation; entertained staff of Ormstown High School, Notre Dame School and John XXIII School. **DEWITTVILLE** and **HUNTINGDON** jointly sponsored a sewing course under the able instruction of Mrs. Wells.

COMPTON : BROOKBURY held 2 card parties to help defray expenses of painting their hall; sunshine basket given to a member who has been hospitalized, **BURY :** Mr. Hugh Doserty of the Sherbrooke Record was guest speaker and gave an enlightening talk on issues involved in publishing a newspaper; branch took a bus trip to Botanical Gardens, the Wax Museum and the Chateau de Ramezay in Montreal, and a report was given on the trip. **COOKSHIRE :** Mrs. Arthur Coates spoke on the Mosaic of Arts and Crafts of Quebec to which she has devoted much time and interest; Agriculture Convener spoke on the emphasis being laid on Agriculture at World's Expo 1967, on food needs as result of the population explosion, on attempts to curb contamination of lakes and streams, and protection of wild life from chemical sprays; articles heard on buying electric frying pans, labelling of garments as washable or for dry-cleaning, and on Coupon #367 and W I work in the North. **EAST ANGUS** heard Miss Colleen Coates as guest speaker, tell of the work of 4 H Clubs; a new 4 H club has recently been organized at Westbury; helped with Cookshire Fair Project. **EAST CLIFTON** donated for prizes at the High School, to the Cafeteria, and to the purchase of a book for the library; reading on the

(continued on page 19)



by Norma E. Holmes

Dear Min :

I could see that last letter was going to be very, very long and overweight (I'm broke), so I stopped and will now continue...

As I had 5 days in London before starting my bus tour of the Continent (Ahem!) I took two tours of the city — West End in an afternoon and the Old City one forenoon, complete with the Tower (chopping block and axe and the spot where they removed Anne Boleyn's head along with others), Beef-eaters — and rain, Old Curiosity Shop etc. — and rain. A whole day to Windsor Castle and Hampton Court and Eton College, passing Runnymede, just a small field, where Magna Carta was signed. Saw the State Apartments in Windsor Castle, paintings, gold leaf. and rather worn velvet and brocade upholstery, chandeliers and apparently one fireplace — at least in the early days — to heat each room. I asked the tour office clerk if he had any royal relatives and he said not that he knew of, but I said, 'You never know. I saw your picture in a painting in one of the rooms.' We had two witty guides who added spice to our tours. It was too late to get into Eton College itself, (I think some of the group were trying to

pinch some gold leaf for souvenirs in Windsor and held up the party), but we got a lecture on the excellence of its training from our guide in the quadrangle, or whatever you call it, which, were it on a North American campus, the parents would have had torn down long ago as being completely unsuitable — especially for wealthy children, which these mostly are. The boys are from 12 to 17 and very care-

fully screened as to scholastic ability for entrance. It was founded by Henry VI in 1440. They are dressed (the original boys — 70 — were chosen from poor families) in mourning by order of George III — tail coats, striped trousers, silk hats, etc. — for whom(?). Then George up and died and as there was no one to tell them when to stop mourning, they are still at it.

I heard a lot of very interesting stories, but on account of the Encyclopedia Britannica, I began to suspect those English guides. Anyhow, who wants an encyclopedia for a guide. At Stoke Poges Church, he told us that an early lord of the manor, having spent quite a few years in riotous living (he had 16 known mistresses, besides a few others he couldn't seem to recall) began, as many of his fellow sinners, to think about St. Peter and his narrow gate. Now, the choice of deeds to impress the Saint were almshouses for the poor, setting up or endowing a college, or building a church. There already being a church — Stoke Poges — in his bailiwick, he decided on the poor old widows (more to intercede with the Saint, perhaps) and ensconced

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40 of them on his estate. Came Sunday and the forty all arrived at church, but the vicar, not having met them socially or otherwise, refused to let them in — probably looked like poor collections. So they complained to their benefactor and he, quite incensed, said very well, you shall have your own church. So he proceeded to build the addition you see on the main chapel and installed a vicar of their very own.

Our guide also explained the 'lych gates' — some wished he hadn't. They were originally called 'leech gates' and were — and are — at the entrance to church grounds. Here they stopped the hearse and doctors applied leeches to the corpse. If they drew blood, the corpse wasn't quite ready for burial and they sent him back home to recover. Queen Victoria, who had ushered in the age of propriety — outwardly, at least — didn't like the nasty sound and therefore they became 'lych gates'. The good queen also put some pretty paving stones around the stone in the yard of the Tower where Anne and Jane lost their hairdos, but it still looks bad to me.

I spent my spare time in London getting lost. Four different people — English — stopped me to ask directions. I asked two girls myself and they promptly got out a map. It seems no native Londoner would consider venturing out without a map.

I was near Russel Square. If you ever go to London, Min, I must warn you about places called Squares. Lost again, you see a sign, Russel Square. Eureka! Now you know where you

are. Or do you? After another ten minutes walking you find that it has four sides — although some Squares are round — and each one is marked Russel Sq. with streets running off in all directions. You wander off now completely disorganized and then before your eyes appears Great Russel St. Suspicious now, you wonder, and you're right. Somewhere there is a Little Russel St.

Finally you call a taxi and he knows right where you belong and your estimation of London taxi drivers goes up and up and you want to tell him so, but by pulling shut the glass partition between you, he has cut off all communication. I always felt like shoving it back and shouting, "Boo!" When you get back to your hotel, here on a wall in the lobby is a large map of the city with, marked in red by your hotel a note which reads, "You are here" and you write underneath, "Thank Heaven".

This little game of Ring Around a Rosy can be played all over London. It is one of the tortures they don't show you in the Tower. It is a modern invention. For example, the Bedford Corner Hotel, being in England, isn't on Bedford, Corner or even Bedford St., Bedford Place or Bedford Way (which are not the same, believe me. They may not even be on hailing terms). It is on the corner of Bayley St. and Tottenham Court Road, and if you walk a block or so in a straight direction down Bayley St. by Bedford Square (which is a perfect oval), you find that Bayley has decided to become Montagu St.

P.S. Just consulted the Encyclopedia Britannica and it says, Vol. 8, that Eton is being modernized. It also says, Vol. 8, that 'it became customary to wear this dress in the middle of Queen Victoria's reign'. I like the guide's version better.

P.P.S. All well here. The baby refused to acknowledge me at first when I returned. Maybe my new accent?

Eloise

The month with the W. I. (continued)

United Nations; flowers for cemetery donated by members. SAWYERVILLE: Mrs. McKean of the Sawyer-ville High School spoke on her work with the Japanese and the Doukhobors in B.C. during the war; plants grown from slips distributed in May were judged with first prize going to Mrs. M. D. Blue; donated to Coupon #367; presented cup and saucer of member who is leaving the community. SCOTSTOWN donated \$1.00 per member to Quebec Service Fund; ordered UNICEF cards.

GASPE: DOUGLASTOWN answered roll call on How Parents Can Help the Teacher; held scrambled word contest. WAKEHAM held contest on "How Well do We Know Canada"; parcel of good clothing sent to Unitarian Service; wool distributed to knit for same organization; white cottons brought for Cancer Society.

GATINEAU: AYLMEER EAST: guest speaker was Mr. M. W. Keirstead, Principal of South Hull High School; discussion — "Are New School Methods Better and Why?"; proceeds from sale of cook books netted over \$100; this Branch came first in points at Aylmer Fair and fourth in points at Ottawa Exhibition. BRECKENRIDGE: Mrs. D'Arcy Renaud, convener of agriculture, spoke on the care of apple trees; gifts given to Mrs. P. McMillan for her new home. RUPERT: Miss Margo Smith, R.N., gave a report on her trip by land, sea and air to Australia, and other countries across the sea; paper on Poison Ivy given by Health Convener. WRIGHT: Dr. Therese Gauthier from Maniwaki spoke about the ways parents and guardians can help their children learn the proper meaning of sex; discussion followed Dr. Gauthier's talk. ALL BRANCHES are helping at the booth at the Winter Fair — with tea and cookies.

MISSISQUOI: COWANSVILLE held successful food sale; voted money to County Centennial Project and to W.I. Northern Extension work; held interesting discussion on new concepts in Education; DUNHAM gave \$1.00 per member to Quebec Service Fund. FORDYCE held a contest on quilts, and a Silent Auction; brought articles for Butters Home for Retarded Child-

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ren; donated to UNICEF and to local 4 H Club.

MONTCALM: RAWDON had an exchange of 25¢ gifts — each member bringing one, and buying one at that price — with proceeds going as an extra contribution to "Pennies for Friendship".

PAPINEAU: LOCHABER: Chairman of the local Cancer Society spoke of their work and showed samples of articles which could be made for bed-ridden patients; Sewing Course held under capable hands of Mrs. Wells with many garments, including jumpers for teenagers, made, and with dresses on display at the meeting; purchased Coupon #367.

PONTIAC: BISTOL saw slides on a trip to Mexico; used clothing given to Neighbourhood Services. CLARENDON: Professor Stanley Horner, B. A., M. S. of Sir George William University, Montreal, gave a interesting talk, and showed slides on his recent trip to Europe. SHAWVILLE heard paper on "Why do we kill our old people with kindness?" — the conclusion being that it is better to wear out than to rust out!; bridge marathon completed, money donated to Shawville Agricultural Society, WYMAN heard talk on Education by a teacher; held contest on Geography; exhibited at Quyon and Shawville Fairs.

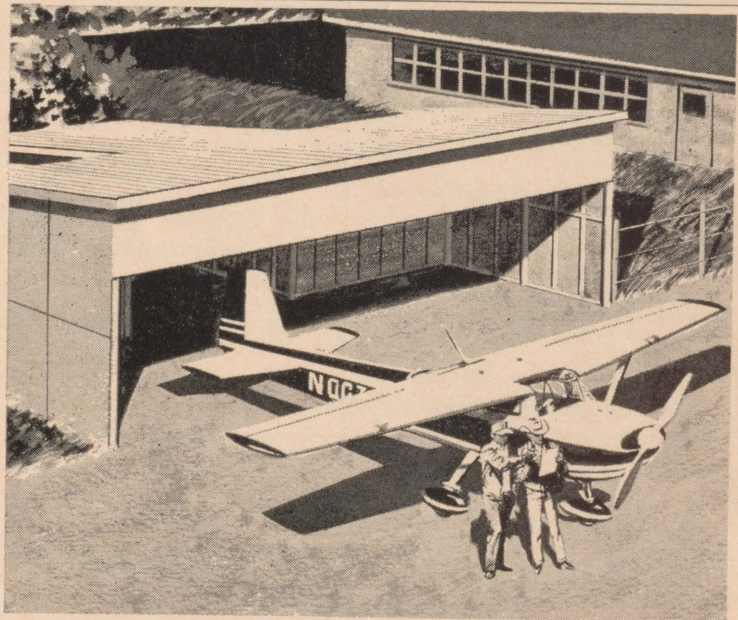
RICHMOND: CLEVELAND heard paper on "Diversification Aim of Study Program in Schools; demonstration on making stuffed toys; contest on words formed from word "Education". DENNISON'S MILLS entertained RICHMOND HILL branch at a Baked Bean and Salad Supper, then played Bingo; Salada symbols brought in; donated to UNICEF. GORE had for Roll Call, good ways to use cheap cuts of meat; demonstration on Ceramic Tile Work, given by Mrs. G. Johnson and Mrs. S. Johnson was much enjoyed; pickles and jams donated to Wales Home. RICHMOND HILL entertained CLEVELAND; held a contest on drop cookies, won by 1st Mrs. John Mason, and Mrs. L. Taylor, 2nd; cookies then sold with proceeds going as a special donation to Pennies for Friendship.

RICHMOND YOUNG WOMEN held an auction, with proceeds going to Pennies for Friendship; donations also to Welfare Fund at St. Francis H. S., UNICEF, QW1 Service Fund and Cecil Butters Memorial Hospital; County, President, Mrs. K. Stevens, and the school nurse, Mrs. J. Gardiner, were guests at the meeting. SHIPTON visited home for Retarded Children, and made a tour of Lowney's Chocolate Plant; travelling prize won by Mrs. Saffin. SPOONER POND held successful fair for children; held contest on asters

grown from seed given each member in May — two guests acted as judges with a prize going to Mrs. P. Brock, and one to Mrs. D. Biggs; contest held on jumbled names of newspapers and magazines won by Mrs. R. Noel.

ROUYN-NORANDA: ARNTFIELD enjoyed sewing course given by Mrs. Wells, technician; guest speaker at the meeting was Mrs. V. Richards, County President, talking on the objects and purposes of the QW1. FARM-BOROUGH held a party and weiner roast for school children; to make containers for Christmas treats for children they are using plastic bottles — cut off the tops, glue red chimney paper

around the sides, fill the bottle with treats and tie a Santa on the top; sponsored a sewing class under Mrs. Wells which was enjoyed by all participants. NORANDA chose a quilt pattern and have started to work on it; visited the Dallaire Dairy; held an open meeting which was attended by all branches in the county and the general public to see a special demonstration of mouth-to-mouth resuscitation; this method of artificial respiration was given by Mr. Earl Fenton of Quemont Mining Corporation. ROUYN held a dance and sold a hair dryer, with the proceeds used to purchase a loom for weaving; Mrs. V. Richards teaches



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knitting to any member interested, following their meeting.

SHEFFORD: GRANBY WEST sell Christmas Cards to raise funds and are taking orders now; held successful Rummage sale; held contest on "Know Your First Aid".

SHERBROOKE: ASCOT heard Miss McArdell, teacher of Psychology in Lennoxville and Sherbrooke School tell of her work; members helped at School Fair and at Handicraft Booth at Sherbrooke Fair; slides of Northern Quebec shown by a member's son, Mr. W. McElrea, who teaches there; donated school fair prizes, and to School for Retarded Children. BELVEDERE renewed CAC membership, Federated News Subscriptions, and ACWW magazine; donations to Lennoxville High School Prizes, to Parks Commission and to School for Retarded Children; Grandmother's Day observed with each member bringing a grandmother, and each grandmother-member presented with a potted plant. BROMPTON ROAD held card party with proceeds for the School Fair; attended a Cancer Clinic. LENNOXVILLE answered roll call by giving a traffic sign in English and in French; pamphlets from Dept. of Education Loan Library distributed; donated prizes to Lennoxville High School; members worked at School Fair, and at WI Booth at Sherbrooke Fair; have knit over 150 squares for Save-the-Children; will sponsor French Conversation Classes again this year. MILBY: Mrs. R. S. Broadhurst spoke on the work and travels of Miss Ruth Evans, during her term as President of P. A. P. T.; held a contest on African Violets won by Mrs. Broadhurst, 1st, Mrs. Beattie, 2nd, and Mrs. Evans, 3rd, judged by Mrs. R. Brown.

STANSTEAD: AYERS CLIFF gave as roll call a Quality of a Good Home-maker; operated a School Fair Booth; have taken over the Pen Pal contact with "Cross-in-Hand" in England that was formerly done by Way's Mills; bought a mattress for the hospital bed, which is rented where needed. BEEBE's guest speaker was Mr. C. H. Aikman who spoke on Regional Schools. HATLEY held a visitor's meeting with many guests present; paper on C. N. I. B. read; sold a ton of paper on their paper drive; Rummage Sale held at a members home; many members donated articles to the fish-pond at the School Fair; donated to Hatley Library; plant sent to hospitalized member. AT STANSTEAD NORTH meeting, Mr. Yves Forest, Federal M. P., and Mr. E. J. Struthers, mayor of Stanstead, spoke on their interest in the Wilson provincial, national and international levels; donated to School Fair, and to Adelaide

Hoodless Home; held spelling contest; held successful Open House Tea at the Red Brick Schoolhouse. TOMIFOBIA held a baby-picture contest which proved to be quite amusing; sympathy card and cheque sent to a neighbour; answered roll call by naming a Prime Minister of Canada; two contests were held — one being "Name -a-Car Quiz", and the other on Publicity; Mrs. L. Marrotte, publicity convener, put forward a "Secret-Sister Contest" which will be held throughout the coming year.

Pasteurization . . . (continued)

the machine turned off. The cobalt 60 source does not cease emitting rays when the irradiator is turned off. It keeps right on indefinitely and will gradually wear itself out.

As the chicken was removed from the machine, we noticed a peculiar smell - of ozone. This developed because the gamma rays disturbed the oxygen molecules so much that some of them were changed into ozone. We hope that most of the *Salmonella* (if any happened to be present) were so disturbed that they did not survive. We know that enzymes are not completely destroyed by irradiation. We also know that chicken which has been irradiated with gamma rays does not become harmfully radioactive, i.e., it does not emit any rays itself, after treatment. We also know that when sufficient energy is used to sterilize the chicken, (to destroy all living organisms) a strange flavour which may be disagreeable to some people develops. We are only pasteurizing, not sterilizing the chicken. The effect of gamma rays on the taste of pasteurized chicken is unknown. We hope to arrive at a dose level which will do a satisfactory job of destroying the *Salmonella* (if present) and yet not produce an undesirable taste in the chicken.

The chicken was cooked and the white meat, cut up. Salt was added in different proportions and each of the panel members was given four samples to taste. We had no difficulty distinguishing between the high and low levels of salt, and to the amazement of all, we could not detect any unusual flavour due to irradiation. No one was more surprised than I was — because I knew that the chicken was irradiated before I tasted it. The results are most encouraging. There is much more research to be done but I have great hopes that in the not too distant future, pasteurized chicken will be available on the market. It will still have to be refrigerated, just as pasteurized milk has to be now, but when properly refrigerated, it should keep much longer than non-irradiated chicken.

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Drummond Timothy

(continued)

the other hand, it holds back when you get cool, showery weather so you have more time to get the earlier varieties off (which you may need when you keep getting the hay rained on), and there is a good chance that the weather will change before the Drummond is ready.

Climax and Drummond have been compared in many variety trials at Macdonald College and elsewhere throughout Eastern Canada. The yield averages in tons of dry matter per acre favour Climax slightly over Drummond but, in the author's opinion the quality factor favours Drummond as the season advances and more than compensates for any yield advantage of Climax at the same date.

Most recommended mixtures for hay and pasture contain timothy plus one or more legumes such as alfalfa, red clover, alsike, ladino or birdsfoot trefoil. It is generally desirable to put early varieties of timothy with early legume varieties and late legumes with late timothy. Late maturing varieties of alfalfa or trefoil mix well with Drummond. An exception is the red-clover-timothy mixtures. First year "red clover hay" should be cut when the red clover is ready and advantage taken of the late maturity of Drummond in subsequent seasons in which timothy dominates.

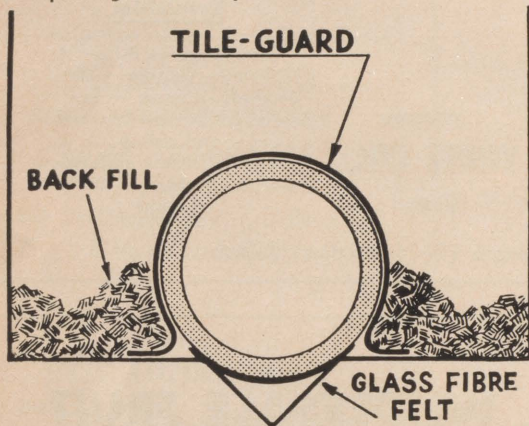
There is one specific hay mixture where Drummond has a particularly useful role to play. This is as a companion to Empire trefoil to be seeded on fields where poor drainage or surface flooding are problems. This mixture will persist and stay quite productive for several years on these wet fields.

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later in its growth cycle and doesn't look particularly promising except as a hay aftermath. We observed, in the fall of 1963, that Drummond stayed green, productive and attractive to livestock in the fall after other timothy varieties were dormant and unpalatable. This suggests that at least in some seasons, Drummond will be useful in stretching the fall pasture season.

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Maple Products 1965

(continued)

1961, against 21,700 in 1951. The number of tappings for the two years under review was 21,499,191 and 22,443,061 respectively, representing an average of 1,244 tappings per farm in 1961 and 1,034 in 1951.

Production

The 1965 output of maple products, expressed in syrup, is estimated at 2,046,000 gallons, compared with 1,607,000 gallons in 1964. The production of syrup reached 1,957,000 gallons and that of sugar produced on farms 436,000 pounds. The Québec contribution to Canadian production for 1965 amounts to almost 91 per cent.

Farm Value

The average price for syrup paid to producers in 1964 was \$4.13 per gallon, against \$3.94 in 1963. The average price of sugar was estimated at 56 cents against 54 cents in 1963. Estimates of the total farm value of maple products in 1964 aggregated \$6,703,000 against \$10,164,000 in 1963, representing a decrease of 34 per cent on 1963.

Export Trade

Expressed in syrup, Canada's export in 1964 reached 1,023,000 gallons worth \$5,038,000 against \$5,970,000 for 1,372,000 gallons in 1963.

Changing concepts in livestock nutrition

(continued)

authorities" recommending the provision of supplementary vitamin A to the extent of from 10,000 to 40,000 I.U. per animal per day. It is of significance that these high levels are being advocated when high concentrate rations are being fed.

More recently, we have been exposed to literature which suggests that supplementary sources of such nutrients as vitamin E, vitamin K, chlorine, zinc,

selenium, potassium and manganese are also necessary if optimum production is to be realized. In this regard, a firm relationship between vitamin A, vitamin E and selenium in beef cattle nutrition appears to be established. Until further research indicates otherwise, it may be reasonable to recommend that beef cattle fed high concentrate, low vitamin A rations in drylot receive up to 6 milligrams of vitamin E per pound of ration or selenium at the rate of 0.1 ppm. As yet, more evidence is required to justify the necessity of providing supplementary vitamin K, chlorine, zinc, potassium or manganese in beef cattle rations.

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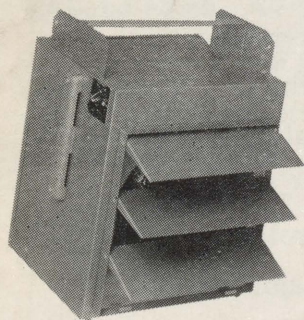
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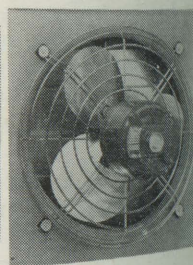
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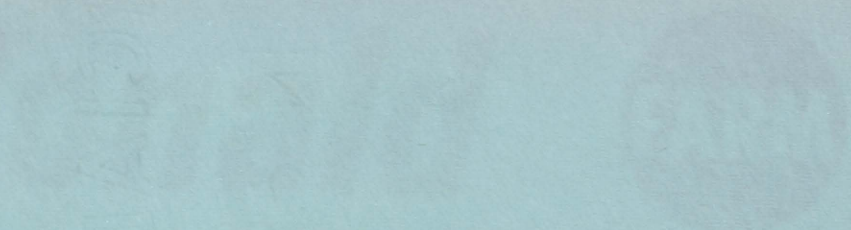
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